

Wind & Hydropower Technologies Program

Harnessing America's abundant natural resources for clean power generation

NAWIG NEWS

THE QUARTERLY NEWSLETTER OF THE
NATIVE AMERICAN WIND INTEREST GROUP
SPRING 2008

As part of its Native American outreach, DOE's Wind Powering America program has initiated a quarterly NAWIG newsletter to present Native American wind information, including projects, interviews with pioneers, issues, WPA activities, and related events. It is our hope that this newsletter will both inform and elicit comments and input on wind development in Indian Country.

• • • • •

An interview with the Honorable Steven J. Morello, Director of the Office of Indian Energy Policy and Programs at the U.S. Department of Energy

In September, U.S. Department of Energy (DOE) Secretary Samuel W. Bodman announced your appointment as director of DOE's newly formed Office of Indian Energy Policy and Programs. What are your plans for this office in the coming months?

When I started in September 2007, I knew there was only one way I could do this job. There are almost 565 federally recognized tribes in the United States, and each is a sovereign nation with its own cultural and wisdom traditions. I have only 17 months in this job to assist these tribes with their renewable energy needs.

To promote renewable and sustainable energy growth on tribal lands, it was clear from the beginning that I would have to go to Indian Country and personally meet with tribal leaders and citizens. I knew that for some tribes, cultural and wisdom traditions might mediate against energy development. I needed to understand how renewable energy development could enhance the cultures and economies of specific tribes and communicate that clearly.

I have so far logged almost 40,000 miles just this year traveling in Indian Country. As I anticipated, some Indians are



Steven J. Morello

wholeheartedly enthusiastic about renewable energy development and some are still trying to decide if this is for real.

I view my function as educational. I want to make sure that the Indian community accepts the fundamentals of the proposed energy project, encourage them to do comprehensive resource assessments, and help them develop partnerships to develop their renewable resources. These partnerships typically include the tribe, a developer that can take advantage of renewable energy tax credits, and a funding source.

My office has no federal money to help tribes develop their renewable energy resources, but fortunately, these projects are better done with private money. My experience is that tribes that want to develop their energy resources can always find private money, especially if they already have

— Story continued on page 2



U.S. Department of Energy

Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

customers lined up to buy the power the project will generate. I also explain to tribes that in addition to selling power, the attendant renewable energy credits and tax credits often make these projects attractive to developers and funders.

I have been heartened by my reception in Indian Country. There are wind projects underway in Indian Country that incorporate the attributes of successful renewable energy ventures: can-do managers, community enthusiasm, and forward-looking leadership. My hope is that I can help these and other projects get on firm footing before I leave office.

[Describe the biggest challenges to implementing these plans.](#)

When you're an unknown quantity—as I am with many of these tribes—you have to do your homework. I travel to meet with individual tribes and work to gain their trust. Although my office can't offer financial support, I can offer what any good lawyer brings to the table: judgment and trust. When I see a tribe with a great resource and enthusiasm about developing that resource, I want to help the tribe's citizens take the next steps.

The challenges of developing renewable energy projects in Indian Country are similar to the challenges of any energy development project, with a few issues unique to tribes. Although wind and other renewable energy resources often resonate with tribal cultural values, Indian tribes typically have the same issues as other groups when they begin to translate their enthusiasm for clean energy development into policies and projects. My job is to help tribes negotiate that process.

[What do you see as the greatest opportunities for tribes in developing wind power?](#)

Because large-scale wind developments appear to be the most competitive renewable energy installations at today's prices, I encourage tribes to consider them if they have a good wind resource. I find that the primary motivators for tribes to develop wind projects are similar to any business or organization's motivations, with a couple of uniquely Indian twists.

Tribal sovereignty is a big issue for tribes. Large-scale wind projects offer opportunities for tribes to protect and enhance their sovereignty by calling their own shots, moving toward meaningful self-determination, and developing long-term economic health. Carefully planned and executed large wind projects can create revenue streams far into the future. That kind of economic revitalization helps improve the quality of life among tribal elders and children and can create a sense of hope, thus keeping youth away

from drugs and other self-destructive behaviors. It also creates good jobs for tribal citizens.

I encourage tribes to think in terms of incorporating as much value for the tribe as possible in any economic development project, and wind projects are no exception. For example, the tribes should always hold an equity position in the project and never simply lease their land to developers. I also suggest that citizens of the tribe learn to service and even manufacture wind turbines. Tribal colleges can offer instruction in operating and servicing wind equipment and plants.

In this way, the wind installation can enhance economic development on many levels, rather than just producing income from the electricity sold. This scenario is much more in line with tribes' concerns about maintaining sovereignty and is more important to them than just getting money from the federal government.

In addition, many Indians believe deeply that Mother Earth is wounded and that it is their responsibility to heal those wounds. Thus, the spiritual dimensions of using renewable wind resources cannot be overlooked! Wind and other renewable energy technologies offer the power to modernize and revitalize communities without damaging the local and larger environment.

[What do you think wind energy in Indian Country will look like in 5 to 10 years? What must happen for this to become a reality?](#)

I believe that we could see wind turbines in Indian Country generating as much as 5,000 megawatts in the next 5 to 10 years. As turbines get larger, it will take far fewer turbines to generate the same amount of electricity, and many parts of Indian Country have excellent wind resources.

Wind seems to be most economical renewable energy technology today, but it is an intermittent resource. However, when wind is teamed with a clean source of baseload power—say, water or geothermal—the combination can produce electricity 24 hours a day.

[If a tribe is interested pursuing a wind energy project, what's the first step? How can your office help?](#)

If a tribe is interested in developing a wind energy project, I definitely would like to know about it. I'll come out and sit with the people, and we can explore the possibilities. I can put tribal leaders in touch with outside resources that can help them think through the project. I can also offer my expertise to help put the deal together.

Steven J. Morello, Director of the Office of Indian Energy Policy and Programs at the U.S. Department of Energy, can be reached at 202-586-3715 or Steven.Morello@hq.doe.gov. He is an enrolled citizen of the Sault Ste. Marie Tribe of Chippewa Indians and is licensed to practice law in Illinois and Michigan.

Wind Worth the Wait

From the beginning, faculty and staff at Turtle Mountain Community College (TMCC) have held fast to the Chippewa philosophy that they are stewards of Mother Earth. This core value affects the planning process for TMCC curricula, campus buildings, and energy systems and informed the decision to install a wind turbine. The wind turbine project is nearly complete, with only the commissioning left to complete at this writing (late March 2008).

TMCC is located in Belcourt, North Dakota, near the Canadian border. Temperatures in northern North Dakota frequently fall (and remain) below zero in the winter. And the wind blows—hard.

TMCC installed a wind turbine to harness the energy from that wind and to move the college another step toward energy self-sufficiency. The 660-kilowatt Vestas V-47 turbine should provide 30% to 50% of TMCC's annual electricity needs, for an annual savings of \$90,000 to \$150,000.

Eventually, the turbine will pay for itself in pollution-free electricity. The college purchased the turbine and tower with a \$571,000 grant from the U.S. Department of Energy, 20% of which was matched by an in-kind grant from a non-governmental agency that is no longer operating.

Lessons Learned

In the process of getting the wind project up and running, staff at TMCC has learned a lot about how to design and manage a successful renewable energy project.

"First, hire experts and check out their references and past experience with wind systems," suggests Kris Delorme, project engineer.

Next, buy directly from the manufacturer. TMCC purchased the turbine from a third party for what seemed at the time to be a very good price.

However, as Delorme points out, "When you buy directly from the manufacturer, the purchase agreement may include installation, a warranty, and a maintenance agreement."

Finding the contractors and equipment required to install the wind equipment caused delays that buying from the manufacturer might have avoided. In the end, it all turned out well, thanks in large part to Delorme's perseverance.

Energy Maintenance Service of Gary, South Dakota, erected the turbine, with a Vestas technician on site to make sure that everything was done properly. An electrician from Rolette, North Dakota, did the high-voltage connections, and the local utility, Ottertail Power Company, handled the utility end of the installation.



A technician prepares the Vestas V-47 turbine for installation.



A crane stands ready to erect the wind turbine at Turtle Mountain Community College.

The TMCC wind turbine is expected to start generating electricity in April 2008, and it should produce enough electricity to supply 90% of the college's power when the wind is at its peak, according to Delorme. Although the wind turbine is an old model no longer made by the manufacturer, it should have a 20-year lifespan, and the college shouldn't have any trouble finding parts.

Looking Ahead

Now that they have experience installing a wind system, TMCC officials and staff are looking for funding to purchase another wind turbine to complement the other renewable energy systems at the college. TMCC boasts a geothermal heating and cooling system, LED lighting, and one campus building built with straw bales.

In addition to saving the college money on its energy bills, the wind turbine serves as a valuable teaching tool. Software purchased with the turbine allows students to track electricity production and measure fluctuations in turbine output.

Using non-polluting energy sources like wind is consistent with Native American culture and values. TMCC is the first tribal college with its own utility-scale wind turbine, and the college's goal is to make the campus completely energy self-sufficient.

Kris Delorme is willing to consult with other tribes considering wind installations. You can reach her at kdelorme@tm.edu.

Alaska Village Electric Cooperative Receives Wind Cooperative of the Year Award

The U.S. Department of Energy (DOE) and the National Rural Electric Cooperative Association (NRECA) announced that Alaska Village Electric Cooperative (AVEC) of Anchorage, Alaska, is the winner of the 2007 Wind Cooperative of the Year Award. This annual award, in its seventh year, recognizes AVEC for leadership, demonstrated success, and innovation in its wind power program. AVEC provides electricity service to 53 small, native villages in rural Alaska and uses wind power to reduce its dependence on diesel power.

NAWIG Events 2008 Calendar

April 23 — 25, 2008

2008 International Wind Diesel Workshop — Girdwood, AK
www.eere.energy.gov/windandhydro/windpoweringamerica/wind_diesel.asp

April 29 — 30, 2008

AWEA Wind Power Supply Chain Workshop — Des Moines, IA
www.awea.org/events/supplychain08/

May 6 — 7, 2008

Great Lakes Wind Collaborative First Annual Meeting — Buffalo, NY
www.nationalwind.org/calendar/view_recurring_event.asp?CalendarID=503

May 7 — 9, 2008

Financing Wind Power: The Future of Energy — Scottsdale, AZ
www.ipedinc.net/conferences/Financing_Wind_Power_The_Future_of_Energy_Phoenix_May_2008.asp

May 12 — 15, 2008

Regional Renewable Energy Development Workshop: Great Plains Tribes — Rapid City, SD
www.eere.energy.gov/tribalenergy/upcoming_events.cfm

May 14, 2008

Public Participation to Gain Acceptance of Renewable Energy — Webinar
www.nationalwind.org/calendar/view_event.asp?CalendarID=477

June 1 — 4, 2008

WINDPOWER 2008 — Houston, TX www.windpowerexpo.org/

June 17 — 18, 2008

2008 Small Wind Conference — Stevens Point, WI
www.the-mrea.org/smallwind.php

June 21—25, 2008

American Public Power Association National Conference — New Orleans, LA
www.appanet.org/events/index.cfm?itemnumber=19583

July 21 — 24, 2008

Regional Renewable Energy Development Workshop: Southwest Tribes — Albuquerque, NM
www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1666

Useful Links

Wind Powering America • www.windpoweringamerica.gov
 American Wind Energy Association • www.awea.org
 U.S. Department of Energy Tribal Energy Program •
www.eere.energy.gov/tribalenergy
 National Wind Coordinating Committee • www.nationalwind.org

For more information contact:

EERE Information Center
 1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

DOE/GO-102008-2581 • Spring 2008



Prepared for the U.S. Department of Energy
 by the National Renewable Energy Laboratory,
 a national laboratory of the U.S. Department of Energy,
 Office of Energy Efficiency and Renewable Energy,
 Operated by the Midwest Research Institute • Battelle

